

Appendix E

Statistical Analysis Output

Statistical Outputs

NORMALITY TESTS FOR KESTREL TEQ DATA

>KS FULL QUANT LN_FULL LN_QUAN / LILLIEFORS
Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	46.00000	0.32058	0.00000
QUANT	46.00000	0.32999	0.00000
LN_FULL	46.00000	0.10447	0.22547
LN_QUAN	44.00000	0.14223	0.02577

>KS FULL QUANT LN_FULL LN_QUAN / LILLIEFORS

The following results are for:

C_P\$ = R

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	16.00000	0.37570	0.00000
QUANT	16.00000	0.36397	0.00000
LN_FULL	16.00000	0.24419	0.01161
LN_QUAN	16.00000	0.12454	0.81933

The following results are for:

C_P\$ = P

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	19.00000	0.19174	0.06429
QUANT	19.00000	0.24186	0.00469
LN_FULL	19.00000	0.11034	0.88078
LN_QUAN	17.00000	0.11890	0.84907

The following results are for:

C_P\$ = C

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	11.00000	0.19686	0.29192
QUANT	11.00000	0.22786	0.11547
LN_FULL	11.00000	0.13705	1.00000
LN_QUAN	11.00000	0.18039	0.44310

T-TEST ON KESTREL TEQ DATA

```
>TEST LN_FULL LN_QUAN * ON_OFF$
```

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

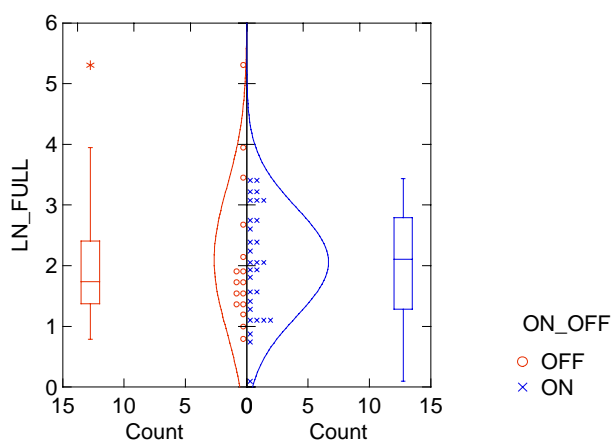
Two-sample t test on LN_FULL grouped by ON_OFF\$

Group	N	Mean	SD
OFF	16	2.10259	1.19986
ON	30	2.06020	0.89807

```

Separate Variance t =      0.12401 df =    24.2    Prob =      0.90233
Difference in Means =      0.04239 95.00% CI =    -0.66287 to    0.74765
Pooled Variance t =      0.13543 df =    44    Prob =      0.89289
Difference in Means =      0.04239 95.00% CI =    -0.58844 to    0.67323

```



Two-sample t test on LN_QUAN grouped by ON_OFF\$

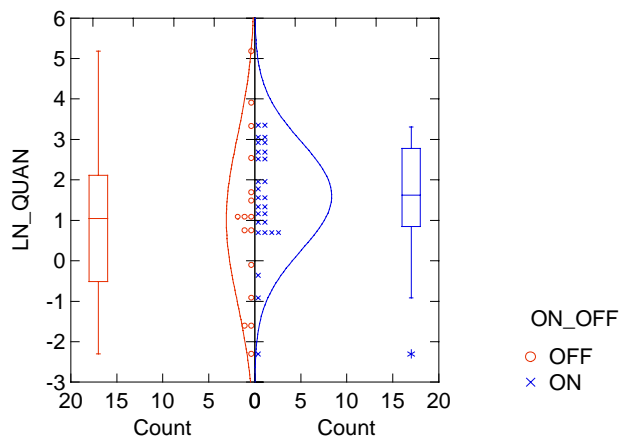
Group	N	Mean	SD
OFF	16	1.02037	2.06487
ON	28	1.60179	1.33686

```

Separate Variance t =     -1.01165 df =    22.3    Prob =      0.32254
Difference in Means =     -0.58142 95.00% CI =    -1.77229 to    0.60945

Pooled Variance t =     -1.13504 df =    42    Prob =      0.26279
Difference in Means =     -0.58142 95.00% CI =    -1.61517 to    0.45233

```



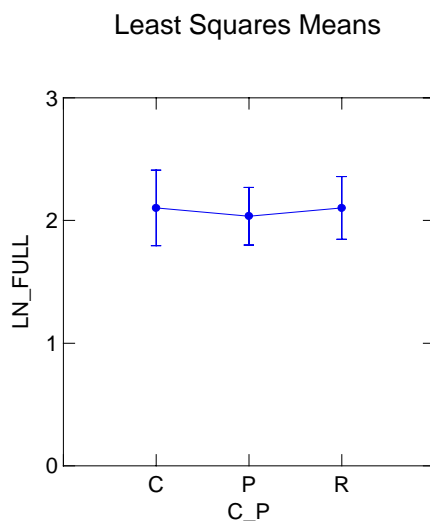
ANOVA and Dunnett's on Kestrels Including case 28 - Sample AKEG012

```
>GLM
>MODEL LN_FULL = CONSTANT + C_P$
>ESTIMATE
Data for the following results were selected according to:
(MEASURE$= "PCDD/PCDF")
```

Effects coding used for categorical variables in model.
Categorical values encountered during processing are:
C_P\$ (3 levels)
C, P, R

Dep Var: LN_FULL N: 46 Multiple R: 0.03323 Squared multiple R: 0.00110

Analysis of Variance					
Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
C_P\$	0.04971	2	0.02485	0.02377	0.97652
Error	44.95341	43	1.04543		



*** WARNING ***

Case 28 is an outlier (Studentized Residual = 3.67342)

Durbin-Watson D Statistic 1.845

First Order Autocorrelation 0.062

>HYPOTHESIS

>POST C_P\$/ DUNNETT ONE CONTROL="R"

COL/

ROW C_P\$

1 C

2 P

3 R

Using least squares means.

Post Hoc test of LN_FULL

Dunnett Test with control = 3.00000

>TEST

Using model MSE of 1.045 with 43 df.

Matrix of mean differences from control:

1	-0.00018
2	-0.06683
3	0.00000

Dunnett One Sided Test.

Matrix of pairwise comparison probabilities:

1	0.50000
2	0.48683
3	1.00000

>GLM

>MODEL LN_QUAN = CONSTANT + C_P\$

>ESTIMATE

Data for the following results were selected according to:

(MEASURE\$= "PCDD/PCDF")

Effects coding used for categorical variables in model.

Categorical values encountered during processing are:

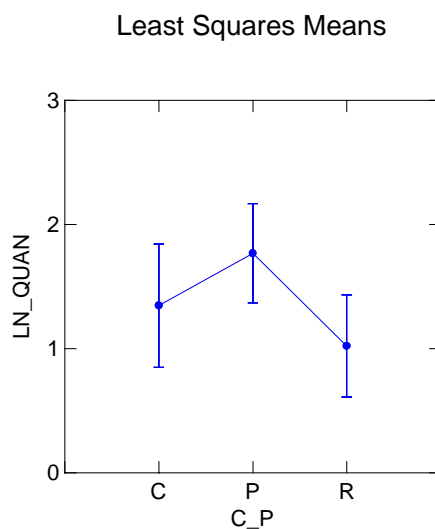
C_P\$ (3 levels)

C, P, R

2 case(s) deleted due to missing data.

Dep Var: LN_QUAN N: 44 Multiple R: 0.19991 Squared multiple R: 0.03996

Analysis of Variance					
Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
C_P\$	4.62171	2	2.31086	0.85333	0.43342
Error	111.02951	41	2.70804		



```

Durbin-Watson D Statistic      1.619
First Order Autocorrelation    0.181
>HYPOTHESIS
>POST C_P$/ DUNNETT ONE CONTROL="R"
COL/
ROW C_P$
  1  C
  2  P
  3  R
Using least squares means.
Post Hoc test of LN_QUAN
Dunnett Test with control =      3.00000

>TEST

```

Using model MSE of 2.708 with 41 df.
Matrix of mean differences from control:

1	0.32624
2	0.74654
3	0.00000

Dunnett One Sided Test.
Matrix of pairwise comparison probabilities:

1	0.41775
2	0.16818
3	1.00000

ANOVA and Dunnett on Kestrels Excluding case 28 - Sample AKEG012

```
>SELECT (MEASURE$= "PCDD/PCDF") AND (SITE$<> "AKEG012")
>GLM
>MODEL LN_FULL = CONSTANT + C_P$

>ESTIMATE
Data for the following results were selected according to:
  (MEASURE$= "PCDD/PCDF") AND (SITE$<> "AKEG012")
```

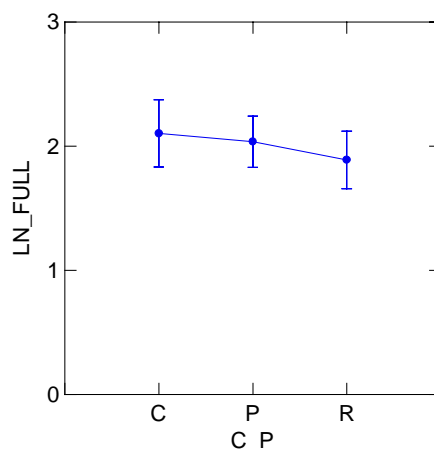
Effects coding used for categorical variables in model.

Categorical values encountered during processing are:
C_P\$ (3 levels)
C, P, R

Dep Var: LN_FULL N: 45 Multiple R: 0.09704 Squared multiple R: 0.00942

Analysis of Variance					
Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
C_P\$	0.32344	2	0.16172	0.19964	0.81980
Error	34.02247	42	0.81006		

Least Squares Means



Durbin-Watson D Statistic 1.580

```
First Order Autocorrelation    0.190
>HYPOTHESIS
>POST C_P$/ DUNNETT ONE CONTROL="R"
COL/
ROW C_P$
  1  C
  2  P
  3  R
Using least squares means.
Post Hoc test of LN_FULL
Dunnett Test with control =      3.00000
>TEST
```

```
-----
Using model MSE of 0.810 with 42 df.
Matrix of mean differences from control:
      1      0.21324
      2      0.14658
      3      0.00000
```

```
Dunnett One Sided Test.
Matrix of pairwise comparison probabilities:
```

```
      1      0.38877
      2      0.42658
      3      1.00000
```

Normality tests for kestrel TCDD-EQ data

```
>USE "D:\PAUL\Projects\RMA\absolute\kestrel bioassay.SYD"
SYSTAT Rectangular file D:\PAUL\Projects\RMA\absolute\kestrel bioassay.SYD,
created Thu Aug 10, 2000 at 16:47:14, contains variables:

SAMP$    SITE$    TCDDEQ_MAX    TCDDEQ_FULL    TCDDEQ_PART    LN_MAX
LN_FULL  LN_PART  ON_OFF$    MAX_15        FULL_15
>ESAVE "C:\Documents and Settings\jonespa7\Desktop\rma report\kestrel bioassay.SYD
```

46 cases and 11 variables processed and saved.

```
>USE "C:\Documents and Settings\jonespa7\Desktop\rma report\kestrel bioassay.SYD"
SYSTAT Rectangular file C:\Documents and Settings\jonespa7\Desktop\rma report\kestrel
bioassay.SYD,
created Thu Sep 07, 2000 at 02:08:54, contains variables:
```

```
SAMP$    SITE$    TCDDEQ_MAX    TCDDEQ_FULL    TCDDEQ_PART    LN_MAX
LN_FULL  LN_PART  ON_OFF$    MAX_15        FULL_15
>NPAR
```

```
>KS TCDDEQ_FULL LN_FULL / LILLIEFORS
```

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDEQ_FULL	46.00000	0.42573	0.00000
LN_FULL	46.00000	0.16135	0.00421

```
>BY SITE$
```

```
>KS TCDDEQ_FULL LN_FULL / LILLIEFORS
```

The following results are for:
SITE\$ = R

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDQ_FULL	16.00000	0.41489	0.00000
LN_FULL	16.00000	0.22299	0.03248

The following results are for:

SITE\$ = P

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDQ_FULL	19.00000	0.30507	0.00006
LN_FULL	19.00000	0.14250	0.39878

The following results are for:

SITE\$ = C

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDQ_FULL	11.00000	0.46705	0.00000
LN_FULL	11.00000	0.20775	0.21526

t-test on TCDD-EQ in kestrel eggs

>TEST LN_FULL * ON_OFF\$

Two-sample t test on LN_FULL grouped by ON_OFF\$

Group	N	Mean	SD
O	30	0.76383	1.06755
R	16	1.28450	1.50247

Separate Variance t = -1.23038 df = 23.3 Prob = 0.23084
Difference in Means = -0.52067 95.00% CI = -1.39547 to 0.35413

Pooled Variance t = -1.36389 df = 44 Prob = 0.17954
Difference in Means = -0.52067 95.00% CI = -1.29004 to 0.24870

ANOVA and Dunnetts on TCDD-EQ in kestrel eggs

>MODEL LN_FULL = CONSTANT + SITE\$

>ESTIMATE

Effects coding used for categorical variables in model.

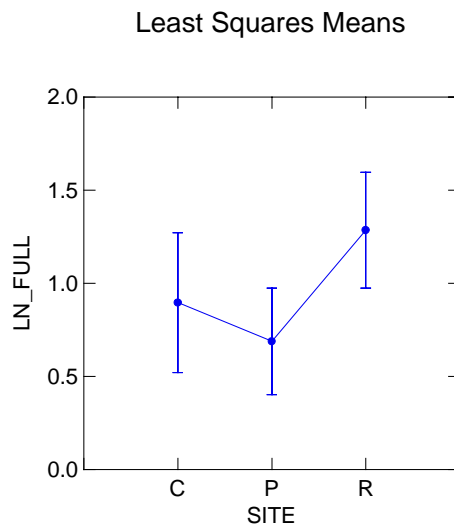
Categorical values encountered during processing are:

SITE\$ (3 levels)

C, P, R

Dep Var: LN_FULL N: 46 Multiple R: 0.21186 Squared multiple R: 0.04489

Analysis of Variance					
Source	Sum-of-Squares	df	Mean-Square	F-ratio	P
SITE\$	3.13038	2	1.56519	1.01041	0.37255
Error	66.60987	43	1.54907		



*** WARNING ***

Case 13 is an outlier (Studentized Residual = 3.22378)

Durbin-Watson D Statistic 2.343

First Order Autocorrelation -0.178

>HYPOTHESIS

>POST SITE\$/ DUNNETT ONE CONTROL="R"

COL/

ROW SITE\$

1 C

2 P

3 R

Using least squares means.

Post Hoc test of LN_FULL

Dunnett Test with control = 3.00000

>TEST

Using model MSE of 1.549 with 43 df.

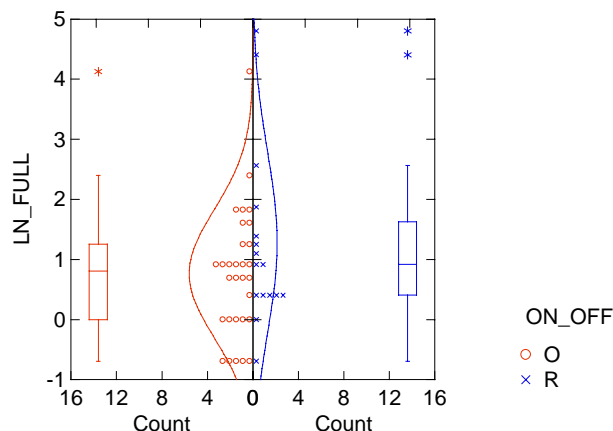
Matrix of mean differences from control:

1	-0.38890
2	-0.59695
3	0.00000

Dunnett One Sided Test.

Matrix of pairwise comparison probabilities:

1	0.32301
2	0.14032
3	1.00000



PCA for kestrel TEQs

SYSTAT Rectangular file C:\WINDOWS\Desktop\rma report\Kestrel pca.SYD,
created Mon Sep 11, 2000 at 16:05:58, contains variables:

SAMP\$	SITE\$	ON_OFF\$	TYPE\$	D1234678	F1234678
F1234789	D123478	F123478	D123678	F123678	D123789
F123789	D12378	F12378	F234678	F23478	D2378
F2378	OCDD	OCDF	FACTOR(1..5)	TSQUARE	PROB

Latent Roots (Eigenvalues)

1	2	3	4	5
6.5826816	3.8933646	2.2185438	1.3821641	1.0557783
6	7	8	9	10
0.6036351	0.4797428	0.3526021	0.1493426	0.1068453
11	12	13	14	15
0.0801407	0.0481192	0.0251069	0.0096874	0.0058329
16	17			
0.0036643	0.0027483			

Component loadings

	1	2	3	4	5
D1234678	0.6527316	-0.6206002	0.3360551	0.0976383	0.0793078
F1234678	0.3829971	-0.2613548	-0.1253363	-0.8366590	-0.2222827
F1234789	0.3324461	-0.0722620	0.7112302	-0.0996611	0.4394288
D123478	0.8952316	-0.2662874	-0.0001462	0.0228224	-0.0497169
F123478	0.6181440	0.6202408	-0.2472404	0.0583397	0.3697176
D123678	0.8254197	-0.4773144	0.1197493	0.0613068	0.0156384
F123678	0.6649513	0.1212350	-0.2791833	-0.6640516	0.0782713
D123789	0.8014714	-0.4656529	0.1375921	0.0896673	-0.1558611
F123789	0.1153678	0.6303463	0.6215269	-0.1815136	0.2290797
D12378	0.9160813	-0.0037273	-0.3120601	0.1398184	0.0257936
F12378	0.0912784	0.5741820	0.4849921	0.0675804	-0.5842807
F234678	0.7298377	0.4149518	-0.0562353	0.1229078	-0.2000515
F23478	0.6430878	0.5140900	-0.4551955	0.1454234	0.2622059
D2378	0.8189469	0.2992664	0.0944461	0.1289132	-0.3516021
F2378	0.4718198	0.8275377	0.0157883	0.1030306	-0.0213735
OCDD	0.4994594	-0.6523104	0.2625173	0.2097123	0.0822585

OCDF	0.0148589	0.3953832	0.6358978	-0.2036700	0.0548464
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Variance Explained by Components

1	2	3	4	5
6.5826816	3.8933646	2.2185438	1.3821641	1.0557783

Percent of Total Variance Explained

1	2	3	4	5
38.7216566	22.9021449	13.0502574	8.1303768	6.2104603

Rotated Loading Matrix (VARIMAX, Gamma = 1.0000)

	1	2	3	4	5
D1234678	0.9559822	-0.0611895	0.1064884	0.0699266	-0.0779973
F1234678	0.2140860	-0.0811137	-0.0399112	0.9620368	0.0242970
F1234789	0.4526950	-0.0125521	0.7723970	-0.0215069	-0.1499020
D123478	0.8016616	0.3832386	-0.0579735	0.2694028	0.0993447
F123478	0.0011321	0.9619862	0.1913169	0.0635532	-0.0443087
D123678	0.9229424	0.1917277	-0.0227028	0.1957829	-0.0078187
F123678	0.1738836	0.4957480	0.0644676	0.8350452	-0.0665910
D123789	0.9102760	0.1347010	-0.0824537	0.1873211	0.1477127
F123789	-0.1738324	0.2369990	0.8647000	-0.0123629	0.2193660
D12378	0.5950431	0.7168894	-0.2162915	0.1963821	0.0588226
F12378	-0.1380702	0.0617187	0.3414493	-0.0787244	0.8795041
F234678	0.2737414	0.6875894	0.0348693	0.1116461	0.4491583
F23478	0.0458522	0.9808316	-0.0767577	0.0588829	-0.0382255
D2378	0.4507736	0.5736509	0.0593332	0.1370242	0.5956752
F2378	-0.1465836	0.7932059	0.2953295	-0.0226759	0.4246856
OCDD	0.8712478	-0.1253260	-0.0015554	-0.0608415	-0.1270672
OCDF	-0.1014743	-0.0234069	0.7236510	0.0240430	0.2651614

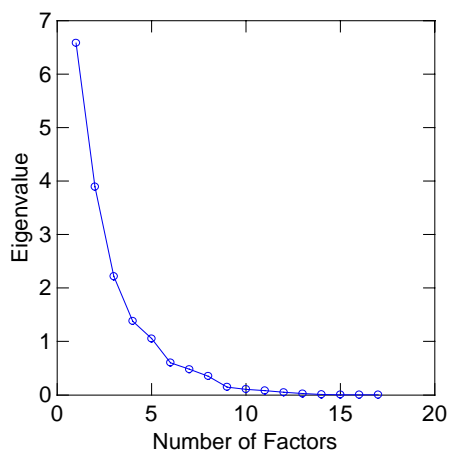
"Variance" Explained by Rotated Components

1	2	3	4	5
4.9924382	4.3666639	2.1935594	1.8626224	1.7172484

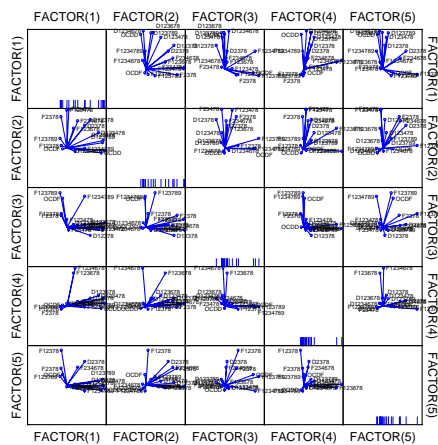
Percent of Total Variance Explained

1	2	3	4	5
29.3672838	25.6862581	12.9032904	10.9566022	10.1014615

Scree Plot



Factor Loadings Plot



Mann Whitney U test on owl body burdens

SYSTAT Rectangular file C:\WINDOWS\Desktop\rma report\BURDEN.SYD, created Thu Sep 14, 2000 at 07:38:30, contains variables:

SAMP\$ SITE\$ BURDEN

Categorical values encountered during processing are:

SITE\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 8 cases

Dependent variable is BURDEN

Grouping variable is SITE\$

Group	Count	Rank Sum
O	3	18.000
R	5	18.000

Mann-Whitney U test statistic = 12.000
Probability is 0.180
Chi-square approximation = 1.800 with 1 df

Mann Whitney U for owls by Age (unknowns not considered)

The following results are for:

SITE\$ = O

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF") AND (AGE\$<> "U")

Categorical values encountered during processing are:

AGE\$ (2 levels)

A, J

Kruskal-Wallis One-Way Analysis of Variance for 13 cases

Dependent variable is FULL

Grouping variable is AGE\$

Group	Count	Rank Sum
A	4	43.0000000
J	9	48.0000000

Mann-Whitney U test statistic = 33.0000000
Probability is 0.0206376
Chi-square approximation = 5.3571429 with 1 df

Kruskal-Wallis One-Way Analysis of Variance for 13 cases

Dependent variable is QUANT

Grouping variable is AGE\$

Group	Count	Rank Sum
A	4	43.0000000
J	9	48.0000000

Mann-Whitney U test statistic = 33.0000000
Probability is 0.0206376
Chi-square approximation = 5.3571429 with 1 df

The following results are for:

SITE\$ = R

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF") AND (AGE\$<> "U")

Categorical values encountered during processing are:

AGE\$ (2 levels)

A, J

Kruskal-Wallis One-Way Analysis of Variance for 10 cases

Dependent variable is FULL

Grouping variable is AGE\$

Group	Count	Rank Sum
A	5	26.0000000
J	5	29.0000000

Mann-Whitney U test statistic = 11.0000000
Probability is 0.7540225
Chi-square approximation = 0.0981818 with 1 df

Kruskal-Wallis One-Way Analysis of Variance for 10 cases

Dependent variable is QUANT

Grouping variable is AGE\$

Group	Count	Rank Sum
A	5	30.0000000
J	5	25.0000000

Mann-Whitney U test statistic = 15.0000000
Probability is 0.6015081
Chi-square approximation = 0.2727273 with 1 df

Mann Whitney U for owls by Age (unknowns not considered)

The following results are for:

AGE\$ = J

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Categorical values encountered during processing are:

SITE\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 14 cases

Dependent variable is FULL

Grouping variable is SITE\$

Group	Count	Rank Sum
O	9	67.0000000
R	5	38.0000000

Mann-Whitney U test statistic = 22.0000000
Probability is 0.9468471
Chi-square approximation = 0.0044444 with 1 df

Kruskal-Wallis One-Way Analysis of Variance for 14 cases

Dependent variable is QUANT

Grouping variable is SITE\$

Group	Count	Rank Sum
O	9	77.0000000
R	5	28.0000000

Mann-Whitney U test statistic = 32.0000000
Probability is 0.2052745
Chi-square approximation = 1.6044444 with 1 df

The following results are for:

AGE\$ = A

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Categorical values encountered during processing are:

SITE\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 12 cases

Dependent variable is FULL

Grouping variable is SITE\$

Group	Count	Rank Sum
O	7	57.0000000
R	5	21.0000000

Mann-Whitney U test statistic = 29.0000000
Probability is 0.0618185
Chi-square approximation = 3.4879121 with 1 df

Kruskal-Wallis One-Way Analysis of Variance for 12 cases

Dependent variable is QUANT

Grouping variable is SITE\$

Group	Count	Rank Sum
O	7	57.0000000
R	5	21.0000000

Mann-Whitney U test statistic = 29.0000000
Probability is 0.0618185
Chi-square approximation = 3.4879121 with 1 df

KS tests on owl data (unknowns not considered)

SYSTAT Rectangular file C:\WINDOWS\Desktop\rma report\absolute data\Owlsumm4.syd,
created Mon Sep 11, 2000 at 13:59:58, contains variables:

SAMP\$	SITE\$	AGE\$	MEASURE\$	FULL	PARTIAL
QUANT	LN_FULL	LN_QUANT	FULL_15	QUAN_15	LN_FULL_15
LN_QUAN_15					

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	26.000	0.257	0.000
QUANT	26.000	0.262	0.000
LN_FULL	26.000	0.081	1.000
LN_QUANT	26.000	0.115	0.499

The following results are for:

SITE\$ = O
AGE\$ = J

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	9.000	0.176	0.697
QUANT	9.000	0.198	0.444
LN_FULL	9.000	0.163	0.875
LN_QUANT	9.000	0.201	0.410

The following results are for:

SITE\$ = O
AGE\$ = A

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	4.000	0.263	0.635
QUANT	4.000	0.262	0.644
LN_FULL	4.000	0.237	0.965
LN_QUANT	4.000	0.236	0.979

The following results are for:

SITE\$ = O
AGE\$ = U

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	3.000	0.304	0.576
QUANT	3.000	0.302	0.590
LN_FULL	3.000	0.201	1.000
LN_QUANT	3.000	0.190	1.000

The following results are for:

SITE\$ = R
AGE\$ = A

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	5.000	0.401	0.009
QUANT	5.000	0.386	0.014
LN_FULL	5.000	0.302	0.165
LN_QUANT	5.000	0.203	1.000

The following results are for:

SITE\$ = R
AGE\$ = J

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	5.000	0.207	1.000
QUANT	5.000	0.193	1.000
LN_FULL	5.000	0.234	0.681
LN_QUANT	5.000	0.252	0.487

KS tests on owl data (unknowns not considered)

The following results are for:

AGE\$ = J
SITE\$ = O

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	9.0000000	0.1760528	0.6971421
QUANT	9.0000000	0.1979361	0.4440426
LN_FULL	9.0000000	0.1632342	0.8752114
LN_QUANT	9.0000000	0.2014190	0.4102769

The following results are for:

AGE\$ = A
SITE\$ = O

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULL	7.0000000	0.2697553	0.1384661

QUANT	7.0000000	0.2684131	0.1436803
LN_FULLL	7.0000000	0.1304922	1.0000000
LN_QUANT	7.0000000	0.1264786	1.0000000

The following results are for:

AGE\$ = A
SITE\$ = R

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULLL	5.0000000	0.4008231	0.0085123
QUANT	5.0000000	0.3857994	0.0143068
LN_FULLL	5.0000000	0.3020146	0.1648025
LN_QUANT	5.0000000	0.2034991	1.0000000

The following results are for:

AGE\$ = J
SITE\$ = R

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
FULLL	5.0000000	0.2071441	1.0000000
QUANT	5.0000000	0.1929674	1.0000000
LN_FULLL	5.0000000	0.2340969	0.6811454
LN_QUANT	5.0000000	0.2524854	0.4874900

Mann-Whitney U test for Owls (unknowns not considered)

The following results are for:

AGE\$ = J

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Categorical values encountered during processing are:

SITE\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 14 cases

Dependent variable is FULLL

Grouping variable is SITE\$

Group	Count	Rank Sum
O	9	67.0000000
R	5	38.0000000

Mann-Whitney U test statistic = 22.0000000

Probability is 0.9468471

Chi-square approximation = 0.0044444 with 1 df

Kruskal-Wallis One-Way Analysis of Variance for 14 cases

Dependent variable is QUANT

Grouping variable is SITE\$

Group	Count	Rank Sum
O	9	77.0000000
R	5	28.0000000

Mann-Whitney U test statistic = 32.0000000

Probability is 0.2052745

Chi-square approximation = 1.6044444 with 1 df

The following results are for:

AGE\$ = A

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Categorical values encountered during processing are:

SITE\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 9 cases

Dependent variable is FULL

Grouping variable is SITE\$

Group	Count	Rank Sum
O	4	28.0000000
R	5	17.0000000

Mann-Whitney U test statistic = 18.0000000

Probability is 0.0500435

Chi-square approximation = 3.8400000 with 1 df

Kruskal-Wallis One-Way Analysis of Variance for 9 cases

Dependent variable is QUANT

Grouping variable is SITE\$

Group	Count	Rank Sum
O	4	28.0000000
R	5	17.0000000

Mann-Whitney U test statistic = 18.0000000

Probability is 0.0500435

Chi-square approximation = 3.8400000 with 1 df

Mann-Whitney U test for owls (Unknowns as adults)

The following results are for:

AGE\$ = J

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Categorical values encountered during processing are:

SITE\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 14 cases

Dependent variable is FULL

Grouping variable is SITE\$

Group	Count	Rank Sum
O	9	67.0000000
R	5	38.0000000

Mann-Whitney U test statistic = 22.0000000

Probability is 0.9468471

Chi-square approximation = 0.0044444 with 1 df

Kruskal-Wallis One-Way Analysis of Variance for 14 cases

Dependent variable is QUANT

Grouping variable is SITE\$

Group	Count	Rank Sum
O	9	77.0000000
R	5	28.0000000

Mann-Whitney U test statistic = 32.0000000

Probability is 0.2052745
Chi-square approximation = 1.6044444 with 1 df

The following results are for:

AGE\$ = A

Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Categorical values encountered during processing are:

SITE\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 12 cases

Dependent variable is FULL

Grouping variable is SITE\$

Group	Count	Rank Sum
O	7	57.0000000
R	5	21.0000000

Mann-Whitney U test statistic = 29.0000000

Probability is 0.0618185

Chi-square approximation = 3.4879121 with 1 df

Kruskal-Wallis One-Way Analysis of Variance for 12 cases

Dependent variable is QUANT

Grouping variable is SITE\$

Group	Count	Rank Sum
O	7	57.0000000
R	5	21.0000000

Mann-Whitney U test statistic = 29.0000000

Probability is 0.0618185

Chi-square approximation = 3.4879121 with 1 df

t-test for owls (unknowns not considered)

The following results are for:

AGE\$ = J

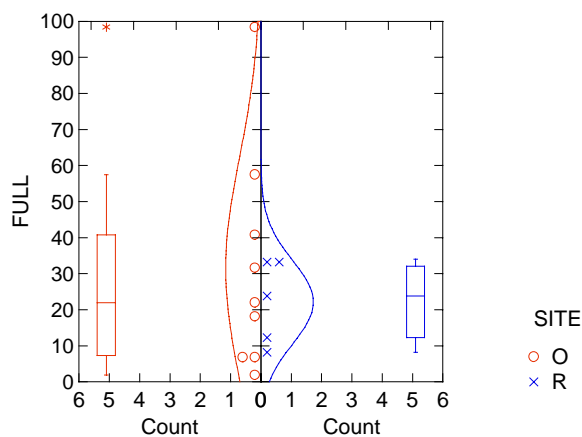
Data for the following results were selected according to:
(MEASURE\$= "PCDD/PCDF")

Two-sample t test on FULL grouped by SITE\$

	Mean	SD
	31.4777778	30.8936797
	22.0800000	11.5514934

Separate Variance t = 0.8157068 df = 11.1 Prob = 0.4317873
Difference in Means = 9.3977778 95.00% CI = -1.593E+01 to 3.472E+01

Pooled Variance t = 0.6457595 df = 12 Prob = 0.5305900
Difference in Means = 9.3977778 95.00% CI = -2.231E+01 to 4.111E+01

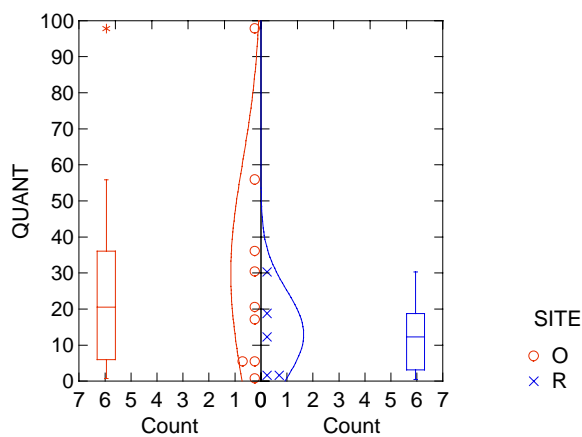


Two-sample t test on QUANT grouped by SITE\$

	Mean	SD
	29.8666667	30.9364267
	13.0000000	12.1210561

Separate Variance t = 1.4477731 df = 11.3 Prob = 0.1748377
Difference in Means = 16.8666667 95.00% CI = -8.6906860 to 4.242E+01

Pooled Variance t = 1.1536880 df = 12 Prob = 0.2710891
Difference in Means = 16.8666667 95.00% CI = -1.499E+01 to 4.872E+01

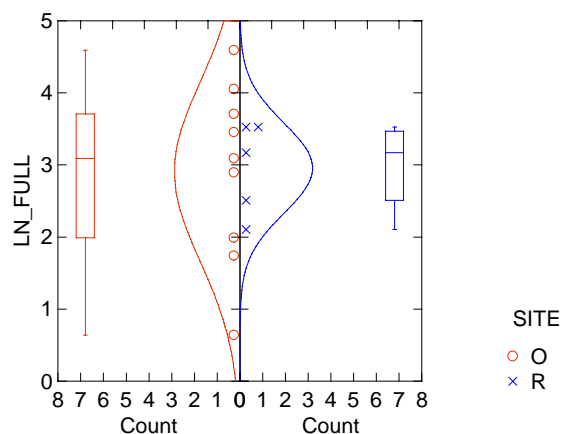


Two-sample t test on LN_FULL grouped by SITE\$

	Mean	SD
	2.9066460	1.2475601
	2.9557271	0.6242881

Separate Variance t = -0.0979897 df = 12.0 Prob = 0.9235619
Difference in Means = -0.0490811 95.00% CI = -1.1406850 to 1.0425227

Pooled Variance t = -0.0814377 df = 12 Prob = 0.9364364
Difference in Means = -0.0490811 95.00% CI = -1.3622153 to 1.2640530

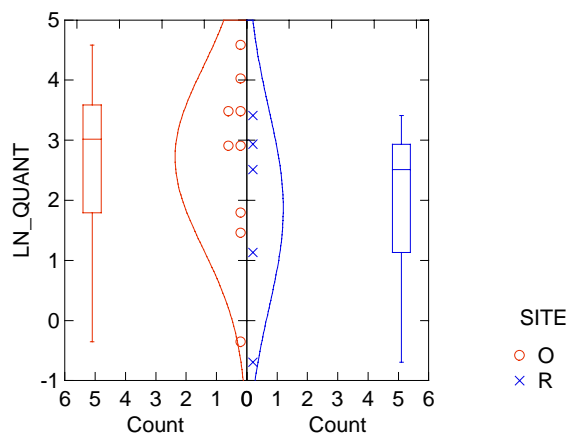


Two-sample t test on LN_QUANT grouped by SITE\$

	Mean	SD
	2.7067141	1.5175630
	1.8585718	1.6606183

Separate Variance t = 0.9438853 df = 7.7 Prob = 0.3737551
Difference in Means = 0.8481424 95.00% CI = -1.2361454 to 2.9324302

Pooled Variance t = 0.9705661 df = 12 Prob = 0.3509214
Difference in Means = 0.8481424 95.00% CI = -1.0558428 to 2.7521276



The following results are for:

AGE\$ = A

Data for the following results were selected according to:

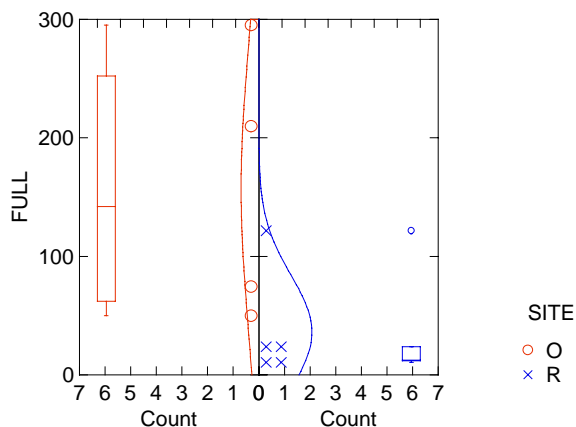
(MEASURE\$= "PCDD/PCDF")

Two-sample t test on FULL grouped by SITE\$

	Mean	SD
	157.2000000	115.7142169
	36.0000000	48.1450413

Separate Variance t = 1.9632753 df = 3.8 Prob = 0.1241740
Difference in Means = 121.2000000 95.00% CI = -5.318E+01 to 2.956E+02

Pooled Variance t = 2.1498157 df = 7 Prob = 0.0686323
Difference in Means = 121.2000000 95.00% CI = -1.211E+01 to 2.545E+02

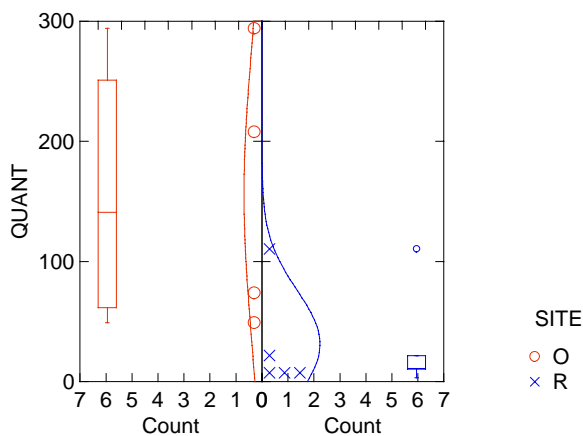


Two-sample t test on QUANT grouped by SITE\$

	Mean	SD
	156.2000000	115.3185443
	31.3800000	44.6592320

Separate Variance t = 2.0455477 df = 3.7 Prob = 0.1154467
Difference in Means = 124.8200000 95.00% CI = -4.969E+01 to 2.993E+02

Pooled Variance t = 2.2499980 df = 7 Prob = 0.0591983
Difference in Means = 124.8200000 95.00% CI = -6.3589622 to 2.560E+02

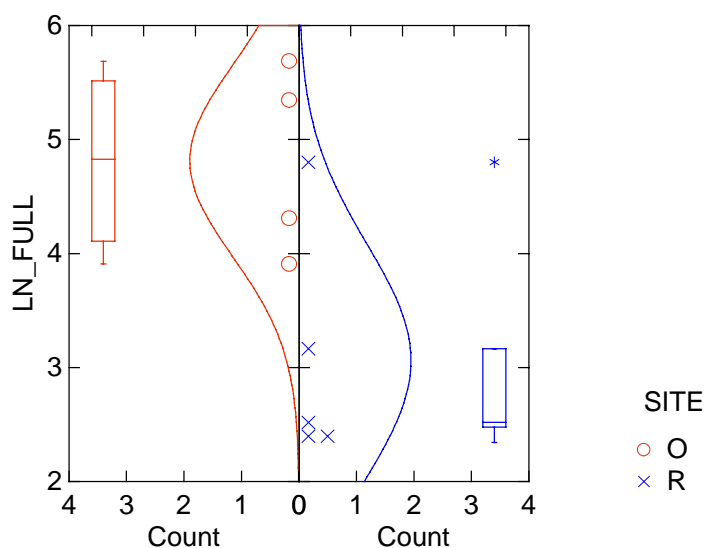


Two-sample t test on LN_FULL grouped by SITE\$

	Mean	SD
	4.8121603	0.8409462
	3.0604505	1.0236714

Separate Variance t = 2.8180962 df = 7.0 Prob = 0.0259360
Difference in Means = 1.7517098 95.00% CI = 0.2808509 to 3.2225686

Pooled Variance t = 2.7496707 df = 7 Prob = 0.0285175
Difference in Means = 1.7517098 95.00% CI = 0.2452983 to 3.2581212

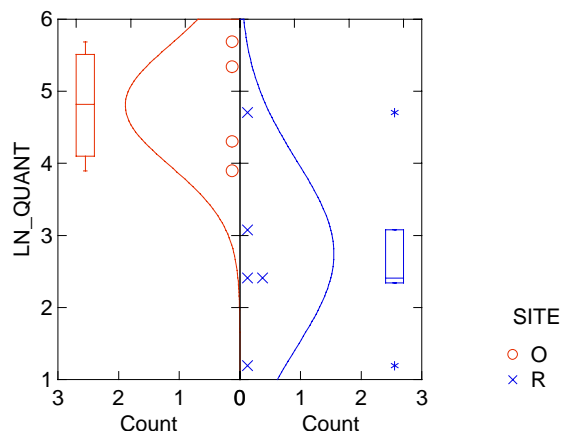


Two-sample t test on LN_QUANT grouped by SITE\$

	Mean	SD
	4.8041819	0.8439872
	2.7448192	1.2875589

Separate Variance t = 2.8847024 df = 6.8 Prob = 0.0241518
Difference in Means = 2.0593628 95.00% CI = 0.3624853 to 3.7562402

Pooled Variance t = 2.7429697 df = 7 Prob = 0.0287945
Difference in Means = 2.0593628 95.00% CI = 0.2840537 to 3.8346719



t-test for owls unknowns as adults

SYSTAT Rectangular file C:\WINDOWS\Desktop\rma report\absolute data\Owlsumm4.syd, created Mon Sep 11, 2000 at 13:59:58, contains variables:

S.	S	AG	MEASURE\$		PARTIAL
Q	LN_	LN_QUA	FULL_1\$	QI	LN_FULL_15
LN_QUA					

The following results are for:

AGE\$ = J

Data for the following results were selected according to:

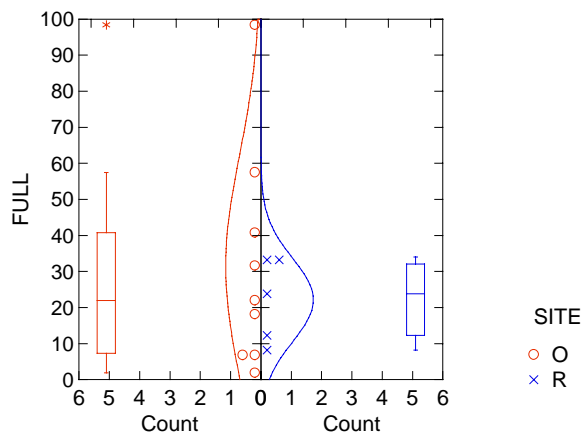
(MEASURE\$= "PCDD/PCDF")

Two-sample t test on FULL grouped by SITE\$

	Mean	SD
	31.4777778	30.8936797
	22.0800000	11.5514934

Separate Variance t = 0.8157068 df = 11.1 Prob = 0.4317873
Difference in Means = 9.3977778 95.00% CI = -1.593E+01 to 3.472E+01

Pooled Variance t = 0.6457595 df = 12 Prob = 0.5305900
Difference in Means = 9.3977778 95.00% CI = -2.231E+01 to 4.111E+01

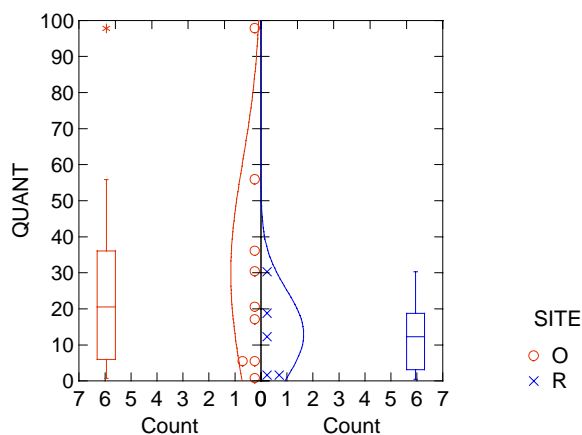


Two-sample t test on QUANT grouped by SITE\$

	Mean	SD
O	29.8666667	30.9364267
R	13.0000000	12.1210561

Separate Variance t = 1.4477731 df = 11.3 Prob = 0.1748377
Difference in Means = 16.8666667 95.00% CI = -8.6906860 to 4.242E+01

Pooled Variance t = 1.1536880 df = 12 Prob = 0.2710891
Difference in Means = 16.8666667 95.00% CI = -1.499E+01 to 4.872E+01

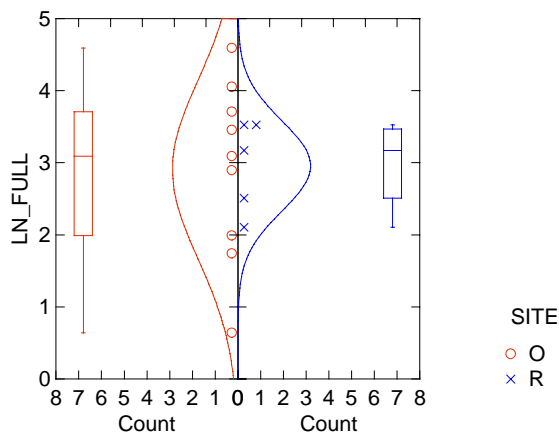


Two-sample t test on LN_FULL grouped by SITE\$

	Mean	SD
O	2.9066460	1.2475601
R	2.9557271	0.6242881

Separate Variance t = -0.0979897 df = 12.0 Prob = 0.9235619
Difference in Means = -0.0490811 95.00% CI = -1.1406850 to 1.0425227

Pooled Variance t = -0.0814377 df = 12 Prob = 0.9364364
Difference in Means = -0.0490811 95.00% CI = -1.3622153 to 1.2640530

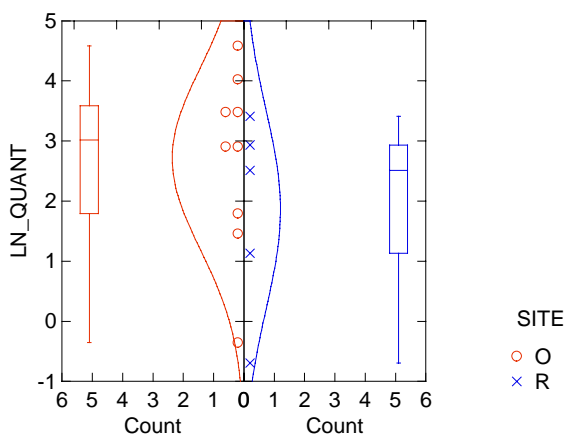


Two-sample t test on LN_QUANT grouped by SITE\$

	Mean	SD
	2.7067141	1.5175630
	1.8585718	1.6606183

Separate Variance t = 0.9438853 df = 7.7 Prob = 0.3737551
Difference in Means = 0.8481424 95.00% CI = -1.2361454 to 2.9324302

Pooled Variance t = 0.9705661 df = 12 Prob = 0.3509214
Difference in Means = 0.8481424 95.00% CI = -1.0558428 to 2.7521276



The following results are for:

AGE\$ = A

Data for the following results were selected according to:

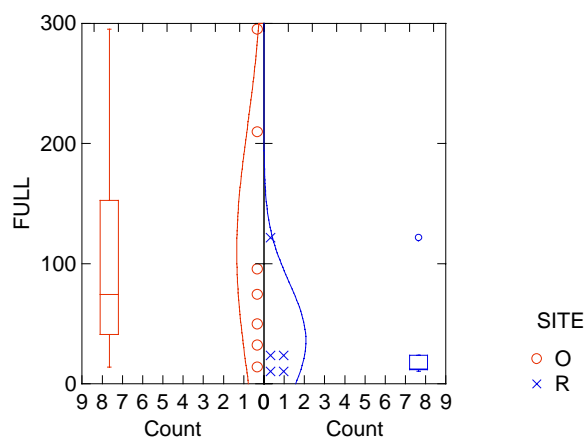
(MEASURE\$= "PCDD/PCDF")

Two-sample t test on FULL grouped by SITE\$

	Mean	SD
	110.0714286	103.7433325
	36.0000000	48.1450413

Separate Variance t = 1.6558262 df = 8.9 Prob = 0.1323512
Difference in Means = 74.0714286 95.00% CI = -2.722E+01 to 1.754E+02

Pooled Variance t = 1.4720589 df = 10 Prob = 0.1717644
Difference in Means = 74.0714286 95.00% CI = -3.804E+01 to 1.862E+02

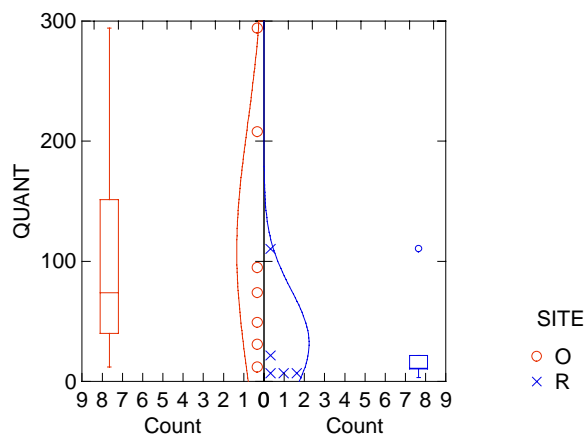


Two-sample t test on QUANT grouped by SITE\$

	Mean	SD
	108.9142857	103.7081551
	31.3800000	44.6592320

Separate Variance t = 1.7624285 df = 8.6 Prob = 0.1132068
Difference in Means = 77.5342857 95.00% CI = -2.261E+01 to 1.777E+02

Pooled Variance t = 1.5550273 df = 10 Prob = 0.1509924
Difference in Means = 77.5342857 95.00% CI = -3.356E+01 to 1.886E+02

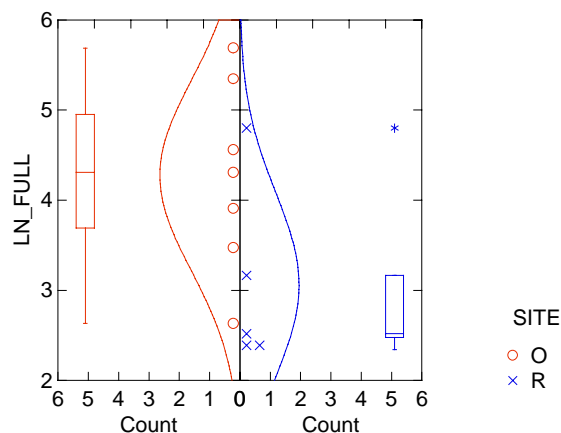


Two-sample t test on LN_FULL grouped by SITE\$

	Mean	SD
	4.2732385	1.0568597
	3.0604505	1.0236714

Separate Variance t = 1.9961180 df = 9.0 Prob = 0.0772085
Difference in Means = 1.2127879 95.00% CI = -0.1627956 to 2.5883715

Pooled Variance t = 1.9844857 df = 10 Prob = 0.0753086
Difference in Means = 1.2127879 95.00% CI = -0.1489049 to 2.5744807

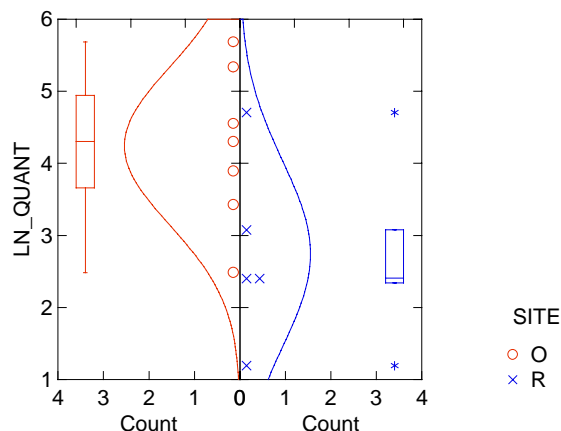


Two-sample t test on LN_QUANT grouped by SITE\$

	Mean	SD
	4.2401312	1.0990779
	2.7448192	1.2875589

Separate Variance t = 2.1060126 df = 7.8 Prob = 0.0690298
Difference in Means = 1.4953121 95.00% CI = -0.1481028 to 3.1387270

Pooled Variance t = 2.1676798 df = 10 Prob = 0.0553866
Difference in Means = 1.4953121 95.00% CI = -0.0417060 to 3.0323301



Kolmogorov-Smirnov test for owl TCDD-EQ data

SYSTAT Rectangular file C:\WINDOWS\Desktop\rma report\owl_bio.SYD,
created Wed Sep 13, 2000 at 16:21:42, contains variables:

SAMPLENUMBE\$ SAMPLEORIGI\$ AGECLASS\$ TCDDEQMAX TCDDEQFULL TCDDEQPART
LN_FULLL

The following results are for:

AGECLASS\$ = A
SAMPLEORIGI\$ = R

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDEQMAX	5.000	0.429	0.003
LN_FULLL	5.000	0.218	0.880

The following results are for:

AGECLASS\$ = A
SAMPLEORIGI\$ = O

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDEQMAX	4.000	0.244	0.863
LN_FULLL	4.000	0.230	1.000

The following results are for:

AGECLASS\$ = J
SAMPLEORIGI\$ = R

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDEQMAX	5.000	0.384	0.015
LN_FULLL	5.000	0.256	0.454

The following results are for:

AGECLASS\$ = J
SAMPLEORIGI\$ = O

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDEQMAX	9.000	0.418	0.000
LN_FULLL	9.000	0.178	0.671

The following results are for:

AGECLASS\$ = U
SAMPLEORIGI\$ = O

Kolmogorov-Smirnov One Sample Test using Normal(0.00,1.00) distribution

Variable	N-of-Cases	MaxDif	Lilliefors Probability (2-tail)
TCDDEQMAX	3.000	0.196	1.000
LN_FULLL	3.000	0.305	0.567

Mann Whitney U test for differences in owl ages

The following results are for:

SAMPLEORIGI\$ = R

Data for the following results were selected according to:

(AGECLASS\$ <> "U")

Categorical values encountered during processing are:

AGECLASS\$ (2 levels)

A, J

Kruskal-Wallis One-Way Analysis of Variance for 10 cases

Dependent variable is TCDDEQMAX

Grouping variable is AGECLASS\$

Group	Count	Rank Sum
A	5	32.000
J	5	23.000
Mann-Whitney U test statistic =		17.000
Probability is		0.343
Chi-square approximation =		0.900 with 1 df

The following results are for:

SAMPLEORIGI\$ = O

Data for the following results were selected according to:

(AGECLASS\$ <> "U")

Categorical values encountered during processing are:

AGECLASS\$ (2 levels)

A, J

Kruskal-Wallis One-Way Analysis of Variance for 13 cases

Dependent variable is TCDDEQMAX

Grouping variable is AGECLASS\$

Group	Count	Rank Sum
A	4	44.000
J	9	47.000
Mann-Whitney U test statistic =		34.000
Probability is		0.013

Chi-square approximation = 6.129 with 1 df

Mann whitney U test for differences by site in owls (unknowns not included)

The following results are for:

AGECLASS\$ = A

Data for the following results were selected according to:

(AGECLASS\$ <> "U")

Categorical values encountered during processing are:

SAMPLEORIGI\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 9 cases

Dependent variable is TCDDEQMAX

Grouping variable is SAMPLEORIGI\$

Group	Count	Rank Sum
O	4	27.0000
R	5	18.0000

Mann-Whitney U test statistic = 17.0000
Probability is 0.0864
Chi-square approximation = 2.9400 with 1 df

The following results are for:

AGECLASS\$ = J

Data for the following results were selected according to:

(AGECLASS\$ <> "U")

Categorical values encountered during processing are:

SAMPLEORIGI\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 14 cases

Dependent variable is TCDDEQMAX

Grouping variable is SAMPLEORIGI\$

Group	Count	Rank Sum
O	9	72.5000
R	5	32.5000

Mann-Whitney U test statistic = 27.5000
Probability is 0.5002
Chi-square approximation = 0.4544 with 1 df

Mann whitney U test for differences by site in owls (unknowns as adults)

The following results are for:

AGECLASS\$ = A

Categorical values encountered during processing are:

SAMPLEORIGI\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 12 cases

Dependent variable is TCDDEQMAX

Grouping variable is SAMPLEORIGI\$

Group	Count	Rank Sum
O	7	51.5000
R	5	26.5000

Mann-Whitney U test statistic = 23.5000
Probability is 0.3290
Chi-square approximation = 0.9528 with 1 df

The following results are for:

AGECLASS\$ = J

Categorical values encountered during processing are:

SAMPLEORIGI\$ (2 levels)

O, R

Kruskal-Wallis One-Way Analysis of Variance for 14 cases

Dependent variable is TCDDEQMAX

Grouping variable is SAMPLEORIGI\$

Group	Count	Rank Sum
O	9	72.5000
R	5	32.5000

Mann-Whitney U test statistic = 27.5000

Probability is 0.5002

Chi-square approximation = 0.4544 with 1 df

t-tests for diff in owl TCDD-EQ (unknowns not used)

SYSTAT Rectangular file C:\WINDOWS\Desktop\rma report\owl_bio.SYD,
created Fri Sep 15, 2000 at 06:58:08, contains variables:

SAMPLEL L	SAMPLEOR FUL	AGEC	TC	TCDDI	TCDDIQ
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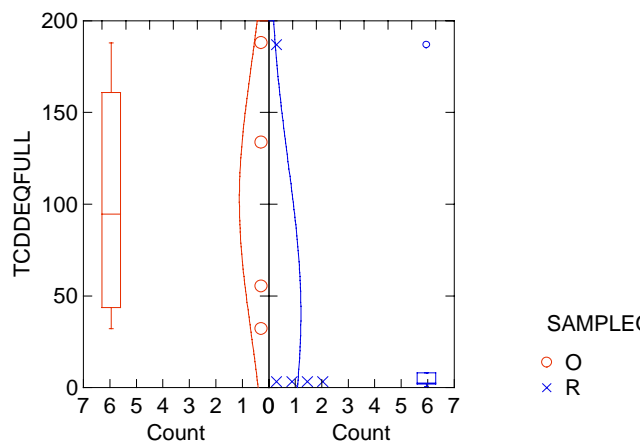
The following results are for:

AGECLASS\$ = A

Two-sample t test on TCDDEQFULL grouped by SAMPLEORIGI\$

	Mean	SD
	102.3125	71.7869
	40.0000	82.2245

Separate Variance t =	1.2126	df =	6.9	Prob =	0.2651
Difference in Means =	62.3125	95.00% CI =	-59.5510 to	184.1760	
Pooled Variance t =	1.1921	df =	7	Prob =	0.2721
Difference in Means =	62.3125	95.00% CI =	-61.2914 to	185.9164	

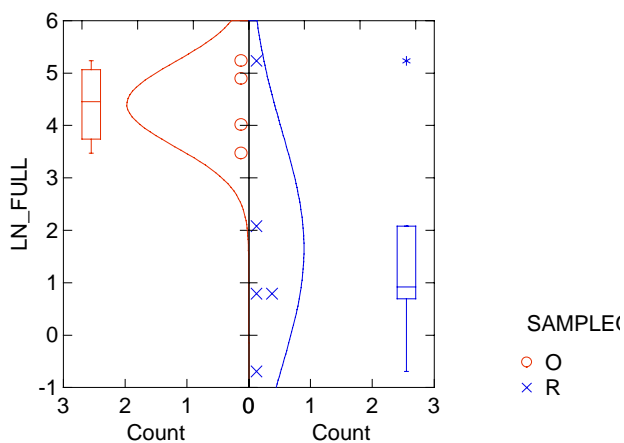


Two-sample t test on LN_FULL grouped by SAMPLEORIGI\$

	Mean	SD
O	4.4040	0.8083
R	1.6454	2.2334

Separate Variance t = 2.5603 df = 5.2 Prob = 0.0486
 Difference in Means = 2.7587 95.00% CI = 0.0252 to 5.4922

Pooled Variance t = 2.3243 df = 7 Prob = 0.0531
 Difference in Means = 2.7587 95.00% CI = -0.0479 to 5.5652



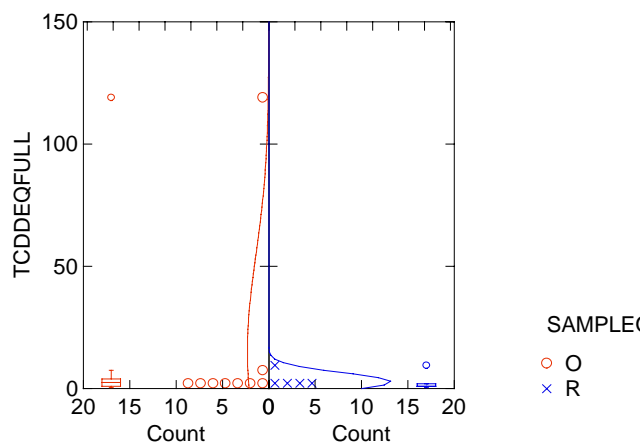
The following results are for:
 AGECLASS\$ = J

Two-sample t test on TCDDEQFULL grouped by SAMPLEORIGI\$

	Mean	SD
O	15.5000	38.8732
R	2.8000	3.7848

Separate Variance t = 0.9719 df = 8.3 Prob = 0.3587
Difference in Means = 12.7000 95.00% CI = -17.2637 to 42.6637

Pooled Variance t = 0.7157 df = 12 Prob = 0.4879
Difference in Means = 12.7000 95.00% CI = -25.9642 to 51.3642

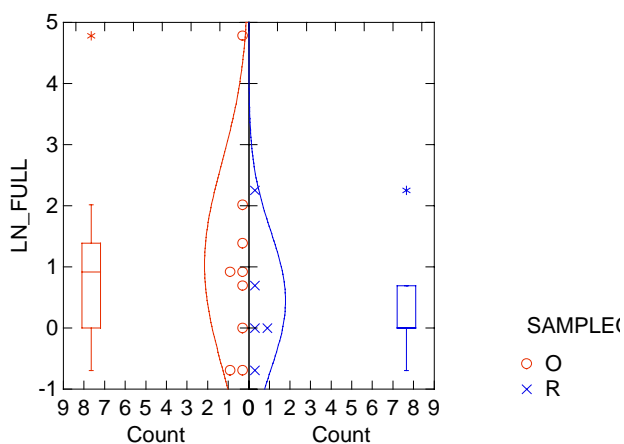


Two-sample t test on LN_FULL grouped by SAMPLEORIGI\$

	Mean	SD
O	1.0355	1.6693
R	0.4503	1.1198

Separate Variance t = 0.7818 df = 11.3 Prob = 0.4503
Difference in Means = 0.5853 95.00% CI = -1.0564 to 2.2270

Pooled Variance t = 0.6956 df = 12 Prob = 0.4999
Difference in Means = 0.5853 95.00% CI = -1.2480 to 2.4185



The following results are for:
AGECLASS\$ = U

Two-sample t test on TCDDEQFULL grouped by SAMPLEORIGI\$

	Mean	SD
	2.8333	2.2546
	.	.

Insufficient data for test.

Two-sample t test on LN_FULL grouped by SAMPLEORIGI\$

Group	N	Mean	SD
0	3	0.6716	1.2092
0	.	.	.

Insufficient data for test.

SYSTAT Rectangular file C:\WINDOWS\Desktop\rma report\owl_bio.SYD,
created Thu Sep 14, 2000 at 17:27:12, contains variables:

SAMPLEI	SAMPLEC	AGECLAS	TCDDE	TCDDI	TCDDI
LN	FI				

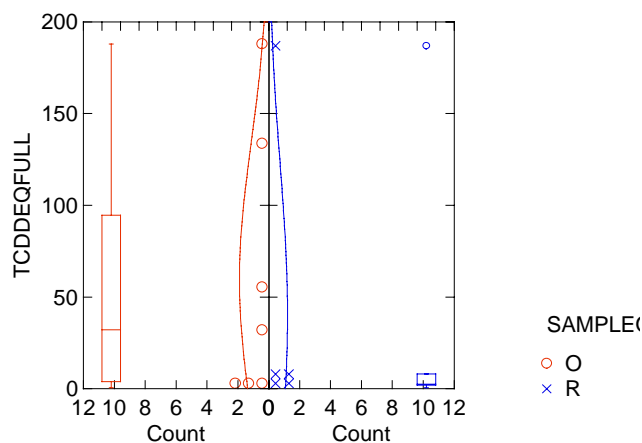
The following results are for:

AGECLASS\$ = A

Two-sample t test on TCDDEQFULL grouped by SAMPLEORIGI\$

	Mean	SD
	59.6786	73.5244
	40.0000	82.2245

Separate Variance t =	0.4269	df =	8.1	Prob =	0.6805
Difference in Means =	19.6786	95.00% CI =	-86.3581 to	125.7153	
Pooled Variance t =	0.4358	df =	10	Prob =	0.6723
Difference in Means =	19.6786	95.00% CI =	-80.9402 to	120.2973	

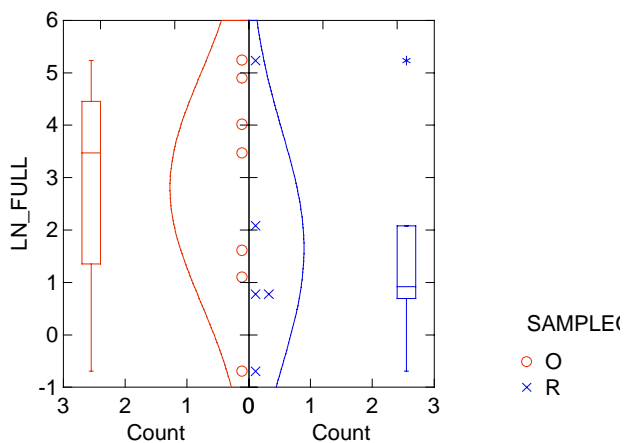


Two-sample t test on LN_FULL grouped by SAMPLEORIGI\$

	Mean	SD
	2.8044	2.1896
	1.6454	2.2334

Separate Variance t =	0.8936	df =	8.7	Prob =	0.3957
Difference in Means =	1.1591	95.00% CI =	-1.7930 to	4.1112	

Pooled Variance t = 0.8968 df = 10 Prob = 0.3909
Difference in Means = 1.1591 95.00% CI = -1.7206 to 4.0388



The following results are for:

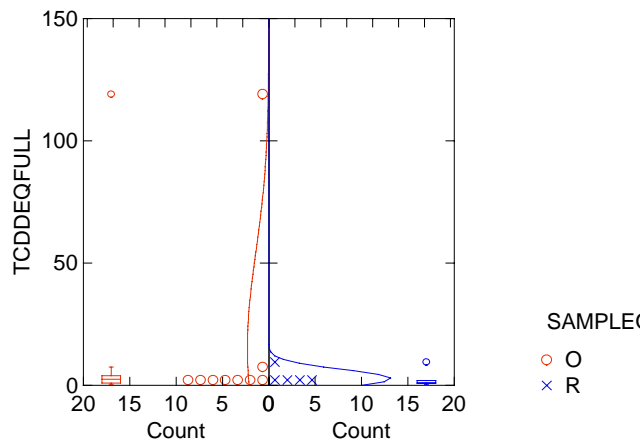
AGECLASS\$ = J

Two-sample t test on TCDDEQFULL grouped by SAMPLEORIGI\$

	Mean	SD
	15.5000	38.8732
	2.8000	3.7848

Separate Variance t = 0.9719 df = 8.3 Prob = 0.3587
Difference in Means = 12.7000 95.00% CI = -17.2637 to 42.6637

Pooled Variance t = 0.7157 df = 12 Prob = 0.4879
Difference in Means = 12.7000 95.00% CI = -25.9642 to 51.3642

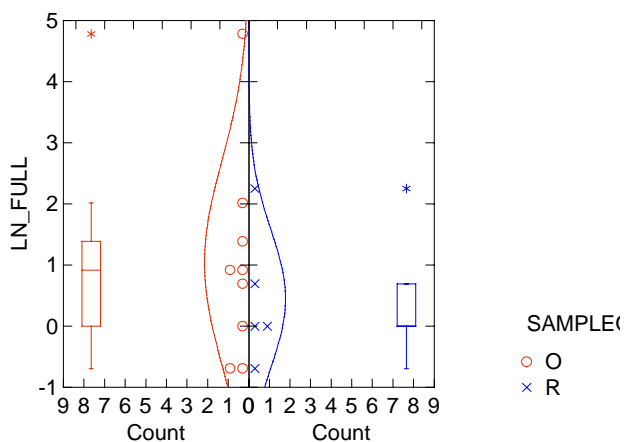


Two-sample t test on LN_FULL grouped by SAMPLEORIGI\$

Group	N	Mean	SD
O	9	1.0355	1.6693
R	5	0.4503	1.1198

Separate Variance t = 0.7818 df = 11.3 Prob = 0.4503
Difference in Means = 0.5853 95.00% CI = -1.0564 to 2.2270

Pooled Variance t = 0.6956 df = 12 Prob = 0.4999
Difference in Means = 0.5853 95.00% CI = -1.2480 to 2.4185



PCA ANALYSIS FOR OWLS

Latent Roots (Eigenvalues)

1	2	3	4	5
9.209	2.642	1.974	1.183	1.037
6	7	8	9	10
0.432	0.206	0.103	0.076	0.058
11	12	13	14	15
0.043	0.011	0.009	0.006	0.006
16	17			
0.005	0.000			

Component loadings

	1	2	3	4	5
HD1234678	0.800	-0.417	-0.181	0.233	-0.235
HF1234678	0.626	-0.740	-0.076	0.075	0.170
HF1234789	0.645	-0.145	0.643	-0.304	0.130
HD123478	0.905	0.148	-0.272	0.024	-0.271
HF123478	0.900	0.274	0.238	-0.103	-0.165
HD123678	0.881	0.248	-0.334	0.005	-0.150
HF123678	0.912	0.296	0.166	-0.148	-0.145
HD123789	0.865	-0.116	-0.392	-0.079	-0.020
HF123789	0.630	0.336	0.507	0.183	0.005
PD12378	0.707	0.427	-0.480	-0.052	0.173

PF12378	0.671	0.071	0.561	-0.027	0.414
HF234678	0.965	0.022	0.047	-0.062	-0.144
PF23478	0.745	0.451	0.044	0.057	0.061
TD2378	0.256	0.430	-0.365	0.359	0.684
TF2378	-0.050	0.099	0.365	0.884	-0.236
OCDD	0.695	-0.654	-0.129	0.192	0.085
OCDF	0.624	-0.717	0.091	0.016	0.188

Variance Explained by Components

1	2	3	4	5
9.209	2.642	1.974	1.183	1.037

Percent of Total Variance Explained

1	2	3	4	5
54.172	15.543	11.610	6.961	6.098

Rotated Loading Matrix (VARIMAX, Gamma = 1.0000)

	1	2	3	4	5
HD1234678	0.579	0.759	0.041	0.184	-0.091
HF1234678	0.131	0.967	0.145	-0.078	0.013
HF1234789	0.155	0.315	0.883	-0.136	-0.201
HD123478	0.937	0.304	0.132	0.033	0.039
HF123478	0.762	0.127	0.614	0.051	-0.057
HD123678	0.932	0.230	0.127	-0.030	0.180
HF123678	0.799	0.117	0.580	-0.015	-0.022
HD123789	0.751	0.540	0.070	-0.197	0.152
HF123789	0.404	-0.010	0.716	0.344	0.075
PD12378	0.798	0.054	0.066	-0.205	0.509
PF12378	0.159	0.249	0.897	0.024	0.225
HF234678	0.770	0.402	0.450	0.000	-0.035
PF23478	0.687	-0.009	0.454	0.086	0.287
TD2378	0.195	-0.027	0.030	0.047	0.969
TF2378	-0.081	-0.028	0.054	0.986	0.020
OCDD	0.263	0.942	0.102	0.045	0.041
OCDF	0.075	0.919	0.298	-0.084	-0.044

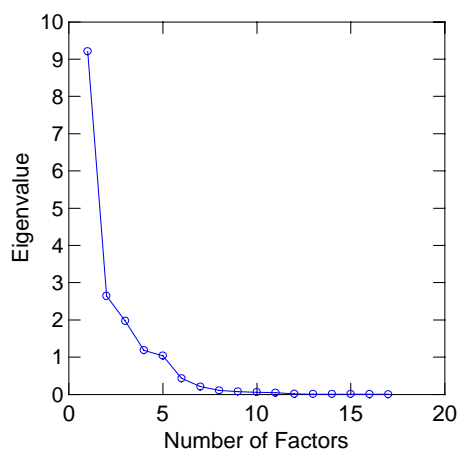
"Variance" Explained by Rotated Components

1	2	3	4	5
5.917	4.037	3.386	1.254	1.451

Percent of Total Variance Explained

1	2	3	4	5
34.807	23.747	19.919	7.376	8.534

Scree Plot



Factor Loadings Plot

